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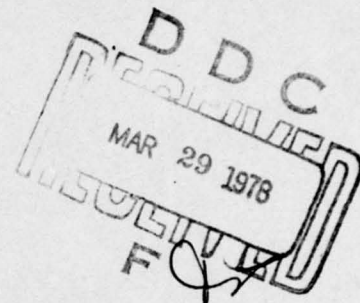
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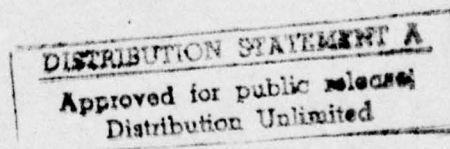
MISSILE-X PROGRAM LOGISTIC ELEMENT MANAGEMENT PLAN FOR TRANSPORTATION AND PACKAGING LEM

15 August 1977



Prepared for
DEPARTMENT OF THE AIR FORCE
SPACE AND MISSILE SYSTEMS ORGANIZATION (AFSC)
ICBM Program Office

Under Contract F04606-76-A-0087-R901



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ARINC RESEARCH CORPORATION

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MISSILE-X PROGRAM
LOGISTIC ELEMENT MANAGEMENT PLAN
FOR
TRANSPORTATION AND PACKAGING LEM

15 August 1977

One of 12 LEM Plans
Prepared for

DEPARTMENT OF THE AIR FORCE
SPACE AND MISSILE SYSTEMS ORGANIZATION (AFSC)
ICBM Program Office

Under Contract F04606-76-A-0087-R901

Prepared by
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**MISSILE-X PROGRAM
LOGISTIC ELEMENT MANAGEMENT PLAN
FOR
TRANSPORTATION AND PACKAGING LEM**

15 August 1977



**SPACE AND MISSILE SYSTEMS ORGANIZATION
AIR FORCE SYSTEMS COMMAND**

**Prepared by
Logistics (MNL)
Deputy for Intercontinental Ballistic Missiles**

**MISSILE-X PROGRAM
LOGISTIC ELEMENT MANAGEMENT PLAN
FOR
TRANSPORTATION AND PACKAGING LEM**

15 August 1977



Approved _____

Lester E. Eklund, Colonel, USAF
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Approved _____

Aloysius G. Casey, Colonel, USAF
Assistant Deputy, Missile-X

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FOREWORD

This Transportation and Packaging Logistic Element Management Plan is one of twelve plans supplementing the guidance and direction for the Integrated Logistic Support (ILS) program as delineated in the Missile-X Integrated Logistic Support Plan (ILSP). Whereas the ILSP provides general guidance and direction for integrating all logistic elements into the overall program requirements, this plan treats the specific actions, milestones, and coordination efforts of the Logistic Element Manager for Transportation and Packaging (T&P-LEM). It has been written to assist him in fulfilling his responsibilities toward achieving the ILS objectives of the MX Program.

The majority of information contained in Sections 1 through 4 herein is common to all plans. Sections 5 and 6 present information pertinent to the T&P-LEM's efforts.

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1 INTRODUCTION

1.1 BACKGROUND

In accordance with DoD Directive 4100.35, the promulgating authority of AFR 800-8, and the guidance provided by AFP 800-7, the MX Program Office has implemented an Integrated Logistic Support program for the MX Weapon System. The ILS program, as delineated in the Integrated Logistic Support Plan (ILSP), is intended to ensure that the weapon system is designed with due consideration given to its supportability and that the required support will be attained within an affordable, minimum life cycle cost.

For the MX System, logistic elements – areas of support activity that collectively comprise the management concept of ILS – have been defined. These are:

- Maintainability Interface (M)
- Reliability Interface (R)
- Nuclear Hardness and Survivability Interface (NH&S)
- Maintenance Planning (MP)
- Support and Test Equipment (SE)
- Supply Support (SS)
- Transportation and Packaging (T&P)
- Technical Data (TD)
- Support Facilities (SF)
- Personnel and Training (P&T)
- Logistic Support Management Information (LSMI)
- Logistic Support Resource Funds (LSRF)

For each area of support activity, the MX Program Office has designated a logistic element manager (LEM) responsible for managing the accomplishment of the tasks associated with his element.

1.2 PURPOSE

This document is a Logistic Element Management Plan for the Transportation and Packaging element. It has been written to provide the T&P-LEM with guidance in managing that element and ensuring the integration of ILS transportation and packaging requirements into the system design process. This plan, and those developed for the other eleven logistic elements, will become supplementary documents to the ILSP.

1.3 MX PROGRAM

The MX Program has been implemented to provide the technology base for the development of an improved land-based strategic missile weapon system. Efforts are being directed toward the design, development, and deployment of an ICBM system within one of two nuclear hardened, multiple aim point (MAP) basing alternatives. The two currently favored basing options are the buried-trench and shelter-based weapon systems.

Full scale development (FSD) of the MX Weapon System is divided into two major efforts: missile development, including the missile and canister; and weapon system development, which includes the MAP basing hardware, software, and facilities, and the integration of the missile/canister with these equipments and facilities.

2 SCOPE

This Logistic Element Management Plan structures the transportation and packaging logistic requirements of the ILSP into identifiable responsibilities of the T&P-LEM and delineates the tasks associated with these responsibilities. The plan is applicable to the FSD phase of the MX Weapon System, with overlap to the preceding validation and system definition phases and succeeding production/deployment phases. The plan applies to all elements of the weapon system, including the air vehicle, support functions, and the selected basing option. In addition, this plan:

- a. Provides an overview of the MX Program management concept, and the LEMs' position in the management structure.
- b. Describes the ILS program and the function of the T&P-LEM within that program.
- c. Describes the participation of the T&P-LEM in the ILS Management Information System.
- d. Indicates the interdependencies among tasks and the coordination among all members of the Integrated Logistic Support Management Team (ILSMT), the project element officers (PEOs), and systems engineering.
- e. Presents a basic schedule for the performance of tasks by relating each task to the time frame of major program events.
- f. Indicates the interrelationships of the T&P-LEM with the remaining logistic elements.

3

REFERENCE DOCUMENTS

The following document listing is provided as a reference source relating to the implementation of an ILS program and the Transportation and Packaging logistic element.

DoD Directive 4100.35	Development of Integrated Logistic Support for Systems/Equipment, 1 October 1970
DoD 4100.35G	Integrated Logistic Support Planning Guide for DoD Systems and Equipment, 15 October 1968
AFR 800-8	Integrated Logistic Support (ILS) Program for Systems and Equipment, 27 July 1972
AFR 71-6	Packaging of Materiel, 20 June 1975
AFR 80-18	DoD Engineering for Transportability, 9 August 1971
AFM 75-1	Transportation of Materiel, 30 November 1970
AFP 800-7	Integrated Logistic Support Implementation Guide for DoD Systems and Equipments, March 1972
MIL-STD-129F	Marking for Shipment and Storage, 20 May 1974
MIL-STD-794D	Procedures for Packaging and Packing Parts and Equipment, 8 August 1975
SAMSO Supplement to AFR 800-8	Integrated Logistic Support (ILS) Program for Systems and Equipment, 7 September 1976
ICBM PO ED 77-6	System Requirements Analysis Programs for the MX Weapon System, 24 May 1977
ICBM PO ED-77-3	ICBM Program Office Engineering Directive for the Integrated Test Plan for MX Weapon System, 22 June 1977
ILSP	Missile-X Integrated Logistic Support Plan, June 1977
PO Manual	ICBM PO Project Officers' Manual, 1 July 1976
SAMSO/MNL Publication	ILS Management Information System Report, 31 August 1977

PROGRAM MANAGEMENT

Management of the MX Weapon System Program is the responsibility of the ICBM Program Office. The Program Manager has the overall responsibility for acquisition and integration management of the program, and is supported by the following Directorates within the ICBM Program Office:

Logistics

Engineering

System Acquisition Management Support

Procurement and Production

Deployment

Program Control

The ICBM Program Office comprises a team of Air Force and contractor personnel. That office operates with a functionally decentralized organizational structure, which has resulted in the implementation of the Project Element Management System. In this system, the program is divided into a series of discrete, functional elements, each managed as an entity by a designated project element officer responsible for monitoring the technical, cost, and schedule performance of one or more MX associate contractors. No prime contractor will be designated for the MX Program. Rather, the ICBM Program Office will function as the system integrator.

4.1 ILS PROGRAM ORGANIZATION

4.1.1 Deputy Program Manager for Logistics

The Deputy Program Manager for Logistics (DPML) was assigned from HQ AFLC with the concurrence of the MX Program Manager, and serves as the focal point for MX logistics management. The DPML and his organization are an integral part of

the ICBM Program Office and form the Directorate of Logistics (MNL). Within the MX Program, it is the responsibility of the DPML to assure that:

- a. Continuous attention is given to logistic support posture and costs throughout the acquisition process.
- b. Tradeoff studies affecting system design are evaluated to determine their impact on supportability, life cycle cost, and operational requirements.
- c. All objectives of ILS are achieved for the MX Weapon System.

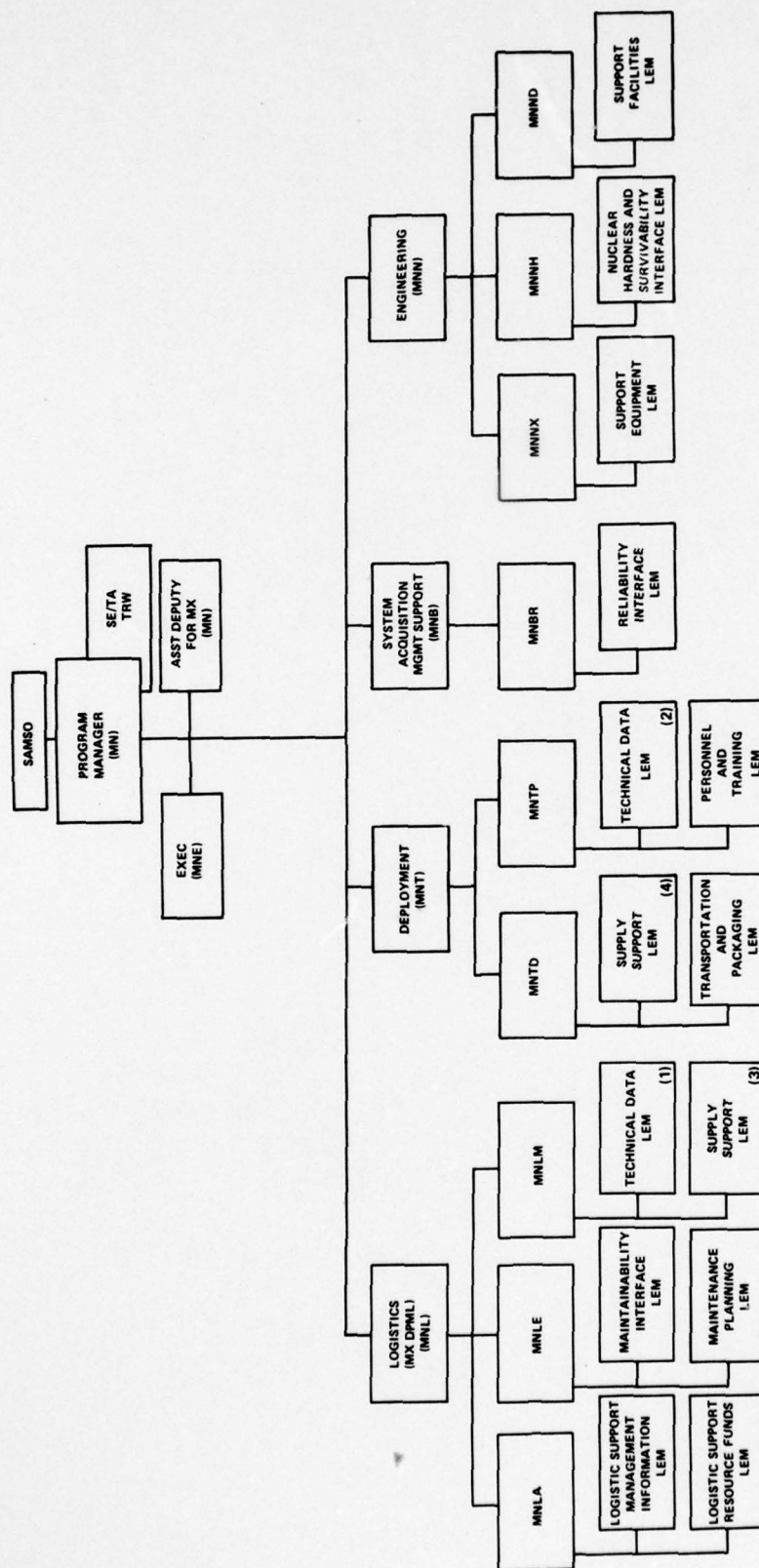
The DPML will draw upon the support of the designated logistic element managers to obtain timely contributions to those system design and support decisions which affect logistic support costs and effectiveness throughout the life of the system.

4.1.2 Logistic Element Managers

As discussed in paragraph 4, the Program Office operates with a functionally decentralized organization structure. This decentralization has positioned ILS elements (as defined by AFR 800-8) outside of the Logistics Directorate, in company with those engineering design elements (e.g., Reliability) normally external to the logistics organization. Logistic element managers have been designated within each functional logistic-related area. In addition, the Technical Data and Supply Support elements are further separated into subelements to gain maximum benefits from the decentralized organizational structure. The elements, by Directorate, are shown in Figure 4-1.

The manager for each element is the single point of contact for the DPML in the management of all logistic integration aspects of the assigned element. The LEM assures that the tasks associated with his element, as defined within this Logistic Element Management Plan, are accomplished. He provides liaison and coordination among the other logistic element managers as required for the achievement of integrated logistic support. He further assures that all relevant ILS data are collected, analyzed, reported, and disseminated, as appropriate, for his element.

Each LEM also plays a key role in supporting the Program Office's function as integrating agency of all associate contractor activities. The T&P-LEM supports systems engineering and the PEOs by providing the management assistance needed to identify the contractual requirements relative to his element. In so doing,



SUBELEMENTS:
 (1) Engineering Data
 (2) Technical Orders
 (3) Operational
 (4) Preparational

Figure 4-1. MX Program Logistic Element Managers

he assures that a system integration approach is used in determining the requirements for each associate contractor. Due to the large number of associates involved, a significant coordination effort will be required by the LEM within his logistic element to maintain cognizance of the activities that impact on logistics.

Each LEM is a member of the Integrated Logistic Support Management Team, and through active participation as a team member he supports the DPML in managing the accomplishment of the Program Office's acquisition logistics tasks.

It is through the exchange of information at ILSMT meetings and the inter-relationships of LEMs that the DPML will acquire the program information necessary to assure the integration of logistic support elements into the total program requirements.

4.2 ILS MANAGEMENT INFORMATION SYSTEM

The ILS Management Information System was developed to assist the DPML and all logistic element managers in their efforts to achieve the logistic objectives of the MX Weapon System. Management and direction of the information system's activities are the responsibility of the DPML. This responsibility is discharged primarily through his position as chairman of the ILSMT and of technical interchange meetings.

Successful implementation of the ILS MIS depends on each LEM's accomplishment of the tasks delineated in his LEM plan, through fulfilling his reporting responsibilities, and through active participation in the ILSMT.

The ILS Management Information System Report dated 31 August 1977 provides a complete description of the ILS MIS and the LEMs' role in implementing the system. Figure 4-2 depicts the information flow of the ILS MIS, and will serve as an aid in understanding the data input/output and coordination activities of the T&P-LEM as defined in Sections 5 and 6 of this plan.

In general, much of the management information will involve estimates, or other planning data in which the quality of the data used will vary over some acceptable range. The criteria provided for use by the LEMs in describing the relative quality of MIS data are presented in tables within the Integrated Logistic Support Management Information System Report. Assistance to the LEMs for participating in the ILS MIS, as both contributor and user, will be provided by the Logistic Support Management Information LEM.

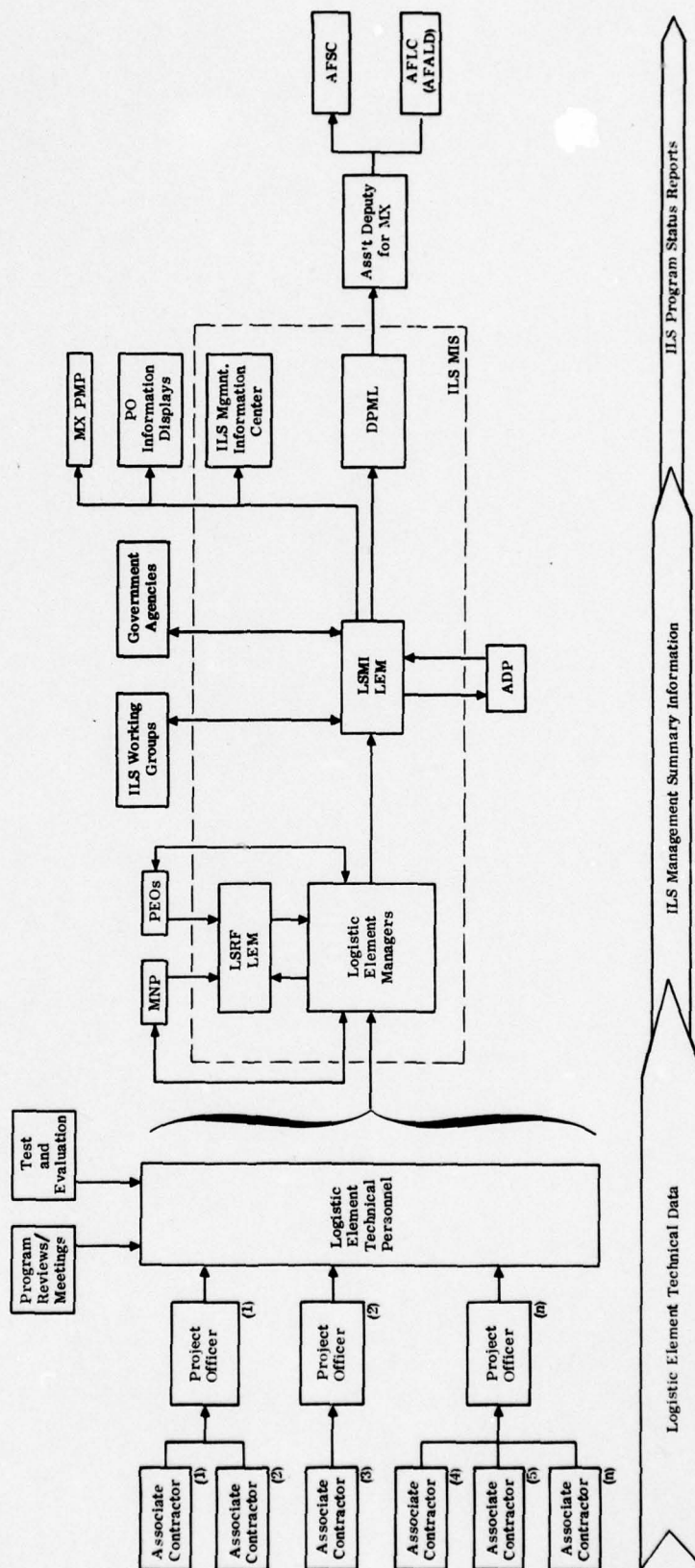


Figure 4-2. Information Flow of the ILS MIS

A typical schedule showing program events for the logistic element addressed in this plan is shown in Appendix C. This schedule depicts the general type of information required as input to the management information system for tracking the progress of each associate contractor in fulfilling the requirements for a specific logistic element. This type of information is also a prerequisite to the LEM's effort of tailoring the task schedule shown in Table 6-1 to each associate contractor's unique development activities.

GENERAL REQUIREMENTS

5.1 INTEGRATED LOGISTIC SUPPORT PROGRAM

Integrated Logistic Support is a concept that encompasses the total and timely support of a system/equipment, within acceptable life cycle cost criteria, for the duration of its useful life. Realization of this concept is achieved through planning and analysis tasks for the subsequent procurement of all required support as part of the total acquisition process.

An ILS program has been implemented for the MX Weapon System to assure that the ILS concept impacts the system design process in a manner that will improve supportability and control O&S costs. Within the ILS program, logistic elements have been identified (see paragraph 1.1). These elements are areas of support activity which, when collectively considered, provide the basis for the acquisition of the human, material, and financial resources required to maintain a system in an acceptable state of operational readiness within affordable cost criteria.

Essentials of the ILS program include the analysis and definition of quantitative and qualitative logistic support requirements; the prediction of logistic support costs; and the performance of tradeoff studies and evaluations. The responsibility for performance of these efforts rests with the ICBM Program Office and its supporting directorates. However, the responsibility for monitoring and assuring the accomplishment of these efforts has been assigned to the logistic element managers. Each Logistic Element Management Plan delineates the detailed areas of responsibility for a specific LEM.

Figure 5-1 depicts the information flow among the various LEMs during the performance of their ILS efforts. While the information flow will primarily be in the direction indicated by the arrows in that diagram, situations will arise where information must be passed in both directions. Additionally, the information flow might be influenced by variations in logistic information requirements among the configuration end items. Figure 5-1a (inset in Figure 5-1) indicates that the impact of the ILS concept on the system design is achieved through the logistic support analysis efforts.

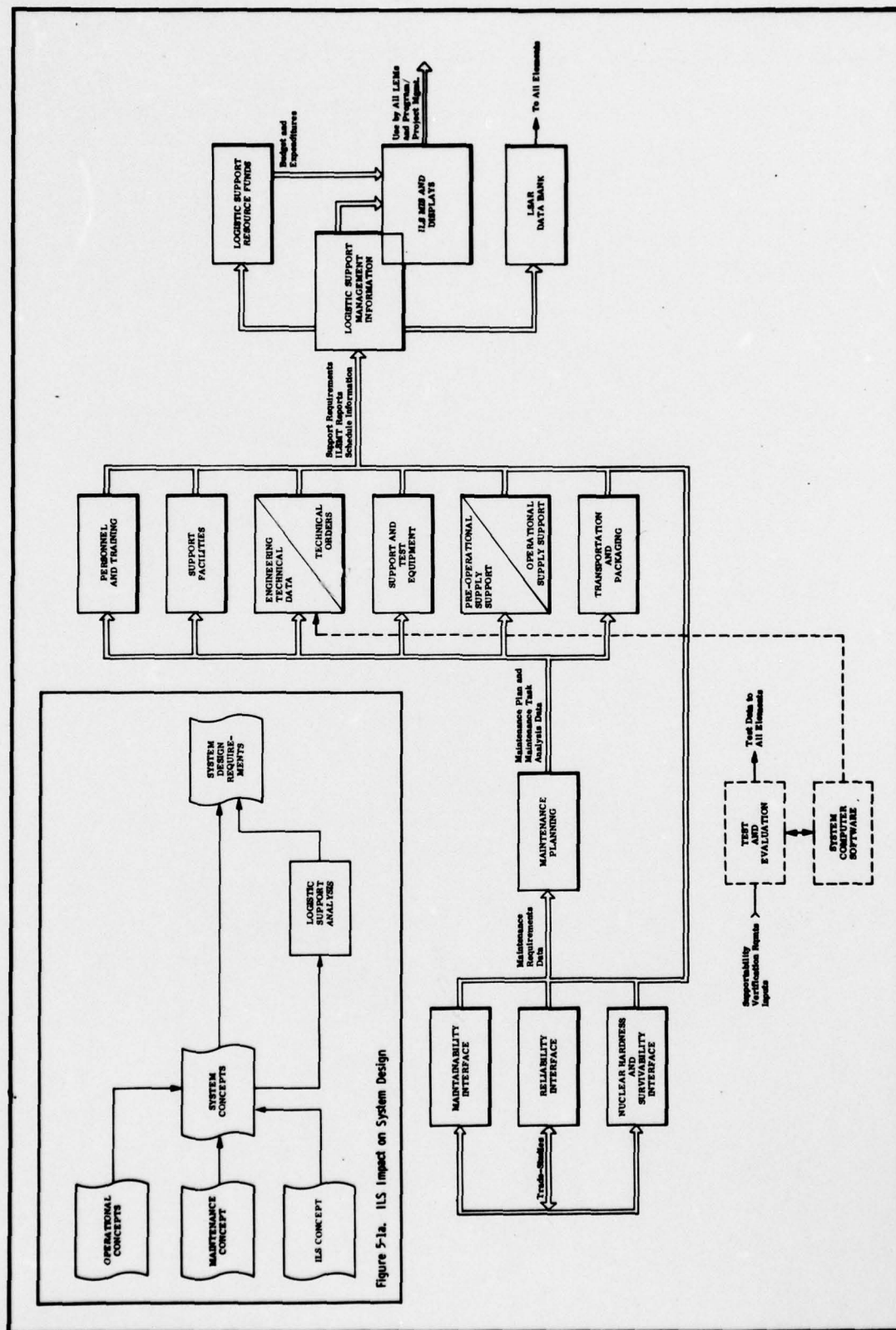


Figure 5-1. Primary Interface Relationships of Logistic Elements

5.2 TRANSPORTATION AND PACKAGING LOGISTIC ELEMENT

The Transportation and Packaging element includes those activities implemented to assure that procedures and actions are identified that will result in the capability to transport, preserve, package, and handle all system, equipment, and support items. These procedures and actions must be based on a variety of considerations such as specifications, item configuration, geographic and environmental considerations, safety, and operational requirements.

As a logistic element, Transportation and Packaging comprises those activities necessary to assure that the impact of T&P on the ILS program is identified, evaluated, and documented for feedback into the design tradeoff process. This feedback information will help to ensure that systems/equipment and their associated support hardware, spares, and repair parts are, to the extent possible, compatible with available transportation modes and existing handling equipment. The logistic support analysis (LSA) is the primary source of data, providing equipment physical dimensions, container requirements and codes, storage and storage space, preservation and packaging requirements, and handling constraints. The T&P-LEM will implement a number of tasks to assure that transportation and packaging requirements are fulfilled for the MX Weapon System. He will develop a schedule of these assurance tasks for each FSD contract.

Primary interface relationships of the T&P element are with the Technical Data, Support and Test Equipment, and Test and Evaluation elements. Secondary relationships exist in that T&P efforts must be compatible with the remaining logistic elements to achieve an integrated program.

In the performance of his assurance functions, the T&P-LEM will coordinate, as necessary, with PEOs, OPRs, systems engineering, and other LEMs. Additionally, in areas such as test and evaluation and software support that do not have LEM representation, coordination may be required with POs. His membership in the ILSMT will require the preparation of status reports, the initiation of problem/impact statements, the development of schedule information for the MIS, and the resolution of assigned action items.

T&P-LEM RESPONSIBILITIES AND TASKS

6.1 RESPONSIBILITIES

The Transportation and Packaging LEM assures the Deputy Program Manager for Logistics that the T&P aspects of the ILS program are achieved, and that transportation and packaging is made an integral part of the system/equipment design process. Responsibilities of the T&P-LEM include:

- a. Coordinating the T&P element of logistics for the MX Program.
- b. Serving as the point of contact for MX logistic support analysis efforts concerning transportation and packaging.
- c. Establishing lines of communication with each PEO, and providing assistance in all matters pertaining to the T&P logistic element.
- d. Supporting the packaging, handling, storage, and transportation (PHST) program.
- e. Providing T&P inputs to the ILS Management Information System.
- f. Ensuring that cost-effective criteria are applied to the PHST program.
- g. Acting as the transportation and packaging representative to the ILSMT.

6.2 MANAGEMENT TASKS

The scope of each task identified in this plan must be tailored by the T&P-LEM for each specific procurement. Consequently, the applicable data items and the degree of coordination activities will vary with the scope of the task.

While the tasks identified below are intended to be comprehensive relative to the scope of the T&P-LEM's responsibilities, additional tasks may become apparent during the implementation of this plan. The LEM is responsible for assuring that these new tasks are planned and scheduled for each applicable procurement. The new tasks should be documented, this plan updated as applicable, and the appropriate information provided to the LSMI-LEM for updating the MIS and its information displays.

- Task 1

Assure that a PHST Program Plan is prepared, implemented, and updated as appropriate. The T&P-LEM coordinates with deployment POs and the OPR for the plan to track its status. The T&P-LEM may review the plan to verify that it satisfies DoD and Air Force imposed requirements for packaging, handling, storage, and transportation of hardware for the MX Weapon System.

- Task 2

Assure that PHST data requirements are developed for each configuration end item (CEI) procurement. Through coordination with each PEO, deployment POs, and systems engineering, the T&P-LEM determines that AFSC form 40s have been prepared, that PHST data requirements have been identified, and that these requirements are reflected in each CEI procurement package. The T&P-LEM may review applicable portions of these documents to verify that the required information is provided.

- Task 3

Assure that PHST requirements are identified for each item of Government furnished equipment (GFE). The T&P-LEM coordinates with each PEO, systems engineering, deployment POs, and the SE-LEM to determine that packaging, handling, storage, and transportation requirements are adequately specified for each item that will be acquired as GFE. The T&P-LEM may inspect appropriate documents to ascertain that these requirements have been identified for GFE.

- Task 4

Assure that CEI proposals are evaluated relative to their approach to achieving PHST requirements. The T&P-LEM coordinates with each PEO, systems engineering, and deployment POs to establish that review criteria have been developed to evaluate each proposal concerning the logistic element of T&P; that each proposal addresses the bidder's approach to implementing PHST requirements; and that the degree of compliance with the procurement package has been determined. The T&P-LEM may provide assistance by developing inputs to the proposal evaluation criteria. He may also examine the results of the proposal reviews to verify that the PHST review criteria have been applied.

- Task 5

Assure that contractor-developed plans associated with PHST are reviewed, approved, and implemented. Through close liaison with each PEO, systems engineering, and deployment POs, the T&P-LEM tracks the status of each plan prepared by an associate contractor. These plans are essential for identifying the detailed approach that each contractor will utilize in performing PHST efforts for his CEIs. These plans also support the early identification of unique T&P characteristics essential to protecting the hardware, based on its design and transportation and storage environments.

- Task 6

Assure that the results of design and tradeoff analyses are evaluated for their impact on PHST requirements. These analyses are the basis for optimizing hardware performance and costs. Optimization may result in a design requiring additional or unique protection to ensure that the equipment will function properly after being subjected to the rigors of transportation. The T&P-LEM coordinates with each PEO, systems engineering, and deployment POs to verify that additional or unique PHST requirements are identified for applicable CEIs. He may perform a review function to ascertain the adequacy of requirement identification and definition.

- Task 7

Assure that the results of design reviews and audits are evaluated for their impact on PHST requirements. Reviews and audits provide in-process assessments of equipment designs as they progress from a concept to a functional item of hardware. As in the previous task, special or unique PHST requirements must also be identified during this review and audit process to protect the integrity of the CEI. Again, the T&P-LEM coordinates with each PEO, systems engineering, and deployment POs to ensure that additional or unique PHST requirements have been established as necessary for each CEI.

- Task 8

Assure that LSAR data sheets are reviewed with respect to information concerning PHST. The T&P-LEM coordinates with each PEO, logistic POs, TD-LEMs, and deployment POs to verify that LSAR data sheets are inspected for PHST information and that the information is reflected in the technical data for each applicable CEI. The T&P-LEM may inspect selected documents to verify that the applicable PHST information has been provided.

- Task 9

Assure that specifications include PHST information for each CEI. This task is associated with those specifications prepared by the contractors to be delivered as CDRL items for their CEIs and associated support and test equipment. The T&P-LEM coordinates with each PEO, systems engineering, deployment POs, and the TD- and SE-LEMs to ascertain that these contractor-developed specifications provide the necessary PHST information for each CEI. The LEM may review these specifications to confirm that the essential PHST information has been provided.

- Task 10

Assure that contractor-prepared engineering change proposals (ECPs) and requests for deviations/waivers are evaluated for their possible impact on PHST. ECPs provide a method for accomplishing design changes once a baseline design has been established. Deviations/waivers are generally requested when one or more technical requirements cannot be met. In both instances, the potential effects either item may have on PHST requirements must be established. The T&P-LEM determines that the necessary reviews and analyses have been performed by coordination with each PEO, systems engineering, and deployment and logistic POs. The T&P-LEM may find it necessary to review reports that document the efforts performed in evaluating ECPs and requests for deviations/waivers.

- Task 11

Assure that the adequacy of the PHST program for each CEI is assessed through appropriate evaluations and demonstrations. The test planning analysis (TPA) and the Integrated Test Plan (ITP) for the MX Weapon System reflect evaluation and demonstration requirements for assessing the PHST program. The contractors will also perform TPA with respect to their CEIs. The T&P-LEM ensures that these efforts have been accomplished through coordination with each PEO, systems engineering, deployment POs, and the T&E PO. Examinations of selected documentation may be performed by this LEM to verify that the planning has been performed and that assessments will be conducted.

- Task 12

Support the preparation/updating of logistic documentation. The T&P-LEM reviews/develops/updates transportation and packaging information contained in or to be a part of ILS documents for the MX Program. The DPML will provide guidance

for this effort. The documents involved include those developed both by the Logistics Directorate and other program groups. The T&P-LEM will prepare, for each appropriate document, the logistic information for transportation and packaging. This effort will require coordination with systems engineering, the OPRs for each document, deployment POs, and appropriate LEMs involved in preparing logistic inputs to the documentation.

6.3 PREFACE TO TASK TABLE

Table 6-1 lists the tasks discussed in Section 6.2, together with the corresponding data items and coordination required in the performance of the tasks. The schedule shown in the table indicates the availability dates of data items relative to major program milestones. The T&P-LEM will prepare a schedule for the completion of the tasks applicable to each configuration end item, using contract award dates as the basis for assigning calendar dates to each schedule.

TABLE 6-1. TRANSPORTATION AND PACKAGING LEM TASKS (Sheet 1 of 2)

Tasks	Applicable Data Items	Coordination	Milestone Schedule									
			RFP Release	Contract Award	SDR	PDR	CDR	FCA	T&E	Production Release		
1. Assume that PHST Program Plan is prepared/implemented updated.	PMP, PHST requirements	OPR for the plan, deployment POs	Initial									
2. Assume that PHST data requirements are developed for each configuration end item (CEI) procurement.	1. AFSC form 40s 2. Applicable DIDs	Each PEO, deployment POs, systems engineering										
3. Assume that PHST requirements are identified for each item of Government furnished equipment (GFE).	1. GFE screening criteria 2. GFE lists	Each PEO, systems engineering, deployment POs, SE-LEM										
4. Assume that CEI proposals are evaluated relative to their approach to achieving PHST requirements.	1. Proposals 2. SOW tasks 3. Review criteria	Each PEO, systems engineering, deployment POs										
5. Assume that contractor-developed plans associated with PHST are reviewed/approved implemented.	1. Transportability evaluation plan/report (L-6148) 2. Corrosion prevention and control plan (S-3598A)	Each PEO, systems engineering, deployment POs										
6. Assume that results of design and tradeoff analyses are evaluated for their impact on PHST requirements.	1. Subsystem design analysis reports (S-3581) 2. SRA data	Each PEO, systems engineering, deployment POs										
7. Assume that results of design reviews and audits are evaluated for compliance with PHST requirements.	Design review meeting minutes (E-3118)	Each PEO, systems engineering, deployment POs										
8. Assume that LSAR data sheets are reviewed with respect to information concerning PHST.	1. LSAR 2. SRA	Each PEO, logistic POs, deployment POs, TD-LEMs										
9. Assume that specifications include PHST information for each CEI.	1. CI development specs (E-3102A) 2. CI production fabrication specs (E-3103A)	Each PEO, systems engineering, deployment POs, TD- and SE-LEMs										
10. Assume that contractor-prepared ECPs and requests for deviations/waivers are evaluated for their possible impact on PHST.	1. ECPs (E-3128/M) 2. Deviations/waivers (E-3129/M)	Each PEO, systems engineering, deployment and logistic POs										

APPENDIXES

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Appendix B: Acronyms and Abbreviations	B-1
Appendix C: Logistic Element Schedule for Transportation and Packaging .	C-1

APPENDIX A

MISSILE-X PROGRAM LOGISTIC ELEMENT MANAGER DIRECTORY Col. L.E. Eklund, DPML				
Logistic Element	Manager	Code	Ext.	Room
Reliability Interface	Capt. T. M. Palmer	MNBR	5359	421
Maintainability Interface	Capt. A. D. Wadsworth	MNLE	4523	619
Nuclear Hardness and Survivability Interface	Capt. W. R. Jacobs	MNNH	7843	711
Maintenance Planning	Lt. Col. R. W. Ayars	MNLE	4523	619
Support Equipment	Lt. Col. B. W. Woolverton	MNNX	7005	138
Supply Support (Preoperational)	Mr. F. C. O'Connor	MNTD	6481	600
Supply Support (Operational)	Mr. J. A. Davidson	MNLM	5321	621
Transportation and Packaging	Mr. R. W. Riggs	MNTD	5474	600
Technical Data (Engineering)	Mr. L. E. Onstott	MNLM	5321	621
Technical Data (Technical Orders)	Maj. L. W. Cooper	MNTP	6684	609
Support Facilities	Mr. F. E. Longan	MNND	6891	408
Personnel and Training	Maj. L. W. Cooper	MNTP	6684	609
Logistic Support Resource Funds	Capt. H. B. Robbins	MNLA	5395	623
Logistic Support Management Information	Mr. J. L. Peterson	MNLA	5386	623

APPENDIX B
ACRONYMS AND ABBREVIATIONS

A&CO	— Assembly and Checkout
ADP	— Automatic Data Processing
AFALD	— Air Force Acquisition Logistics Division
AFLC	— Air Force Logistics Command
AFSC	— Air Force Systems Command
AFTEC	— Air Force Test and Evaluation Center
BTWS	— Buried Trench Weapon System
C/A	— Contract Award
CDR	— Critical Design Review
CDRL	— Contract Data Requirements List
CDRS	— Contract Data Requirements Substantiation
CDSR	— Cost Data Summary Report
CEI	— Configuration End Item
CFSR	— Contract Funds Status Report
CPR	— Cost Performance Report
DPML	— Deputy Program Manager for Logistics
DT&E	— Development Test and Evaluation
FCA	— Functional Configuration Audit
FCHR	— Functional Cost Hour Report
FMA	— Failure Mode Analysis
FSD	— Full Scale Development
ICBM	— Intercontinental Ballistic Missile
IOT&E	— Initial Operational Test and Evaluation
ILS	— Integrated Logistic Support
ILSMT	— Integrated Logistic Support Management Team
ILSP	— Integrated Logistic Support Plan
ISP	— Integrated Support Plan
ITP	— Integrated Test Plan
LEM	— Logistic Element Manager

LSA	— Logistic Support Analysis
LSAR	— Logistic Support Analysis Record
MDR	— Missile Design Review
MIC	— Management Information Center
MIS	— Management Information System
MPP	— Maintainability Program Plan
MTBF	— Mean Time Between Failures
MTTR	— Mean Time to Repair
MX	— Missile-X
OPR	— Office of Primary Responsibility
OT&E	— Operational Test and Evaluation
PCA	— Physical Configuration Audit
PDR	— Preliminary Design Review
PEO	— Project Element Officer
PMP	— Program Management Plan
PO	— Project Officer
RPP	— Reliability Program Plan
SAMSO	— Space and Missile Systems Organization
SBWS	— Shelter Based Weapon System
SDR	— System Design Review
SOW	— Statement of Work
SRA	— System Requirements Analysis
T&E	— Test and Evaluation .
TI	— Technical Interchange
TPA	— Test Planning Analysis

APPENDIX C

LOGISTIC ELEMENT SCHEDULE FOR TRANSPORTATION AND PACKAGING

Validation/ System Definition	Full-Scale Development					Production/Deployment
Major Subsystem Milestones	SDR △	PDR △	CDR △	FCA △	Flight Tests △	IOC △
1. ISP Reviews	C/A △	MDR △	SRA/LSA/ Des. Rev. data review → △			
2. Develop T&P Reqmnts.	P/O △	Updates △	Initial △			
3. Transportability Eval. Plan/Report	Proposal △	Revisions as required △				MAP Tests △
4. Develop T&P Specifications	Hardware/software △					Update △
5. Develop Preop. T&P Capability	Design △					Fabricate △
6. Develop T&P Capability for Production Units	Evaluation △					Hardware/ Software △

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